

PARMELIA SQUARROSA, A NEW SPECIES IN SECTION PARMELIA

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Parmelia squarrosa Hale, sp. nov.

Thallus ut in P. saxatili (L.) Ach. sed differt rhizinis squarrose ramosis atque acidum lobaricum nunquam continente.

Holotype: On Quercus alba L., about 300 m south of the Upper Hawksbill parking area, Shenandoah National Park, Madison Co., Virginia, collected by M. E. Hale, no. 36949 (US; isotypes to be distributed in Fasc. V, Lichenes Americani Exsiccati).

The chief morphological feature of P. squarrosa is the richly squarrosely branched rhizines in contrast to the uniformly simple unbranched rhizines of P. saxatilis. This type of rhizine is species-specific in section Parmelia, known so far in P. sulcata Tayl. and the common Asian P. fertilis Müll. Arg., as well as in twelve other rarer species.

Other morphological differences between P. squarrosa and P. saxatilis are less distinctive and may reflect the different ecological conditions under which they grow. Parmelia squarrosa is a temperate species with a light mineral gray, sometimes even white pruinose color and elongate lobes; P. saxatilis, a boreal and arctic species, tends to turn brownish and to have shorter crowded lobes and a shiny cortex. Isidial formation is essentially the same except for a tendency toward greater marginal growth in P. squarrosa. Both species produce atranorin in the cortex and salazinic acid in the medulla, but while P. saxatilis often produces lobaric acid in the medulla, especially in Europe and eastern North America, this acid has not been demonstrated in any specimens of P. squarrosa on thin-layer chromatographic plates.

Parmelia squarrosa is one of the commonest lichens in the Great Lakes-Appalachian region where it had previously been identified as P. saxatilis. It occurs from southern Maine to northern Alabama and Georgia with two records so far from Arkansas and southern Missouri. In the Great Lakes it occurs as far north as the Canadian border and in the southern part of western Ontario. It is extremely rare in northern California, Oregon, and southern Alaska. Outside of North America it is very common in Japan and Korea and is known from Nepal.